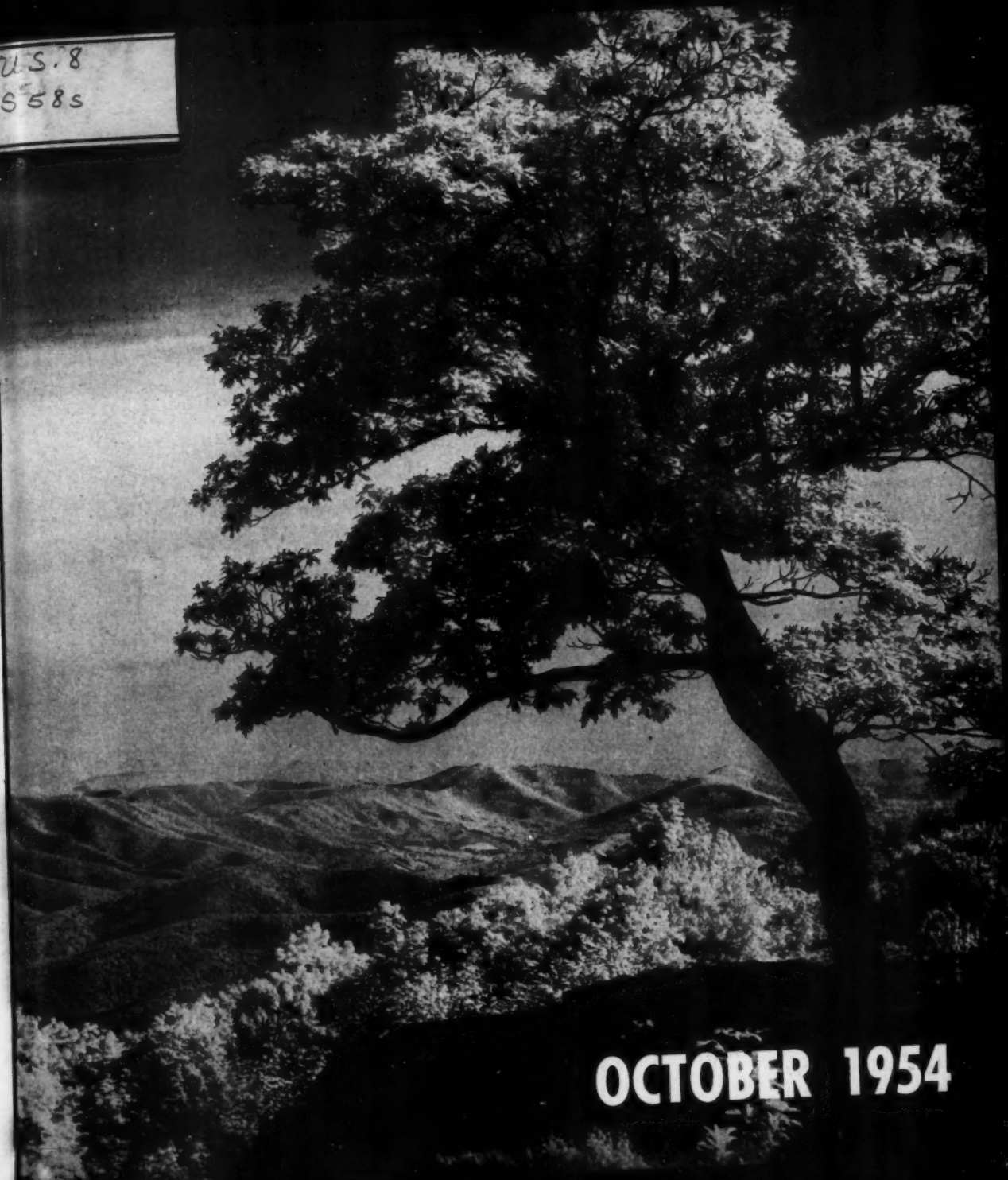
U.S.8
S58s



OCTOBER 1954

SOIL CONSERVATION

OFFICIAL ORGAN OF THE SOIL CONSERVATION SERVICE

SOIL CONSERVATION •

OCTOBER 1954

VOL. XX—NO. 3

EZRA TAFT BENSON
SECRETARY OF AGRICULTURE

DONALD A. WILLIAMS
ADMINISTRATOR, SOIL CONSERVATION SERVICE

ISSUED BY SOIL CONSERVATION SERVICE, U. S. DEPARTMENT OF AGRICULTURE
WASHINGTON, D. C.

★ THIS MONTH ★

	PAGE
PUTTING RESEARCH TO WORK ON THE LAND *By M. L. DuMars*	51
THESE THINGS WE HAVE LEARNED *By John Lamb, Jr.*	56
GULLY-MENDING SCOUTS	60
THE WATERSHED APPROACH ON THE LITTLE SIOUX *By Charles Ballantyne*	62
TEN YEARS OF SERVICE MARKED *By Howard C. Jackson*	67
HOW TO GET THE STORY TOLD *By Roy Pring*	69

WELLINGTON BRINK
Editor

SOIL CONSERVATION is published by direction of the Secretary of Agriculture as administrative information required for proper transaction of the public business. The printing of this publication has been approved by the Bureau of the Budget, July 29, 1954. SOIL CONSERVATION supplies information for workers of the Department of Agriculture and others engaged in soil conservation.

15 CENTS PER COPY

$1.25 PER YEAR

FOREIGN—$1.75 PER YEAR

25 percent discount on orders of 100 or more subscriptions mailed to a single address

RESEARCH ON RESOURCES.— R. G. Gustavson, president and executive director of Resources for the Future, Inc., has announced that that organization will receive from The Ford Foundation a grant to support a program of research and education for a 5-year period at an average annual level of about $750,000.

"I am glad," Gustavson says, "that The Ford Foundation has expressed its confidence in Resources for the Future, and on a scale that will enable us to make a real start on work that very much needs doing. Some of the problems related to developing and conserving our natural resources already are critical and more may become so as our population grows and our economy continues to

(Continued on page 68)

CONSERVATION DEGREE.—Announcement is made by Purdue University that, effective September 1, 1954, it will offer a course of study leading to the degree of Master of Science in Conservation. This new degree will be available primarily to graduate students under the direction of any of the three sponsoring departments of agronomy, biology and forestry.

FRONT COVER.—A woodland panorama in the Valley of Virginia from the Skyline Drive in the Shenandoah National Park. Photographer Hermann Postlethwaite used an infrared film and a 23-A filter, and released the shutter at 9:30 a.m.

All orders go to the Superintendent of Documents, Government Printing Office, Washington 25, D. C.

Putting Research To Work On The Land

D. A. Williams points to date for "a new kind of report" mentioned in this article.

Here is something brand new in farmer-technician-researcher cooperation: A practical way to bring our scientific knowledge to bear on our agricultural problems.

By M. L. DuMARS

ON OCTOBER 1, SCS Administrator D. A. Williams, will present to the Administrator of the Agricultural Research Service, Dr. B. T. Shaw, a report on the Nation's soil and water conservation problems that call for scientific research.

This will be a new kind of report, and it signifies a new type of working relationship between Government agencies.

The report itself will be important but perhaps not so significant as what it symbolizes: The establishment of a definite system to "flag" conservation problems each year for the attention of the State and Federal officials who plan the country's agricultural research program.

"Our objective," say Administrators Shaw and Williams in a joint letter to State college officials, "is to make sure the total research program of the country takes fully into account the conservation problems that are encountered

Dr. Byron T. Shaw, Administrator of the Agricultural Research Service.

Note.—The author is ARS-SCS liaison officer, Plant Industry Station, Beltsville, Md.

by farmers and technicians working in the soil and water conservation program. If the Nation's conservation work is to be based upon scientifically sound knowledge, research into the unsolved problems is essential, and it is also necessary to make research results available promptly and continuously to the technicians and educators who work with farmers."

This autumn's pioneering national report of research needs will deal with *actual problems of real people on specific lands*—not with general principles. It will be used for discussions with the national research advisory committees, especially the soils-water-fertilizer committee; it will be used by research officials for the planning of new research projects and budgets and for the continuous adaptation of "going" research.

Important as the finished report itself may be, it will have served equally good purposes at many points along the preparation route.

It is worth while to note some of those good purposes.

First, the report will have required fresh, analytical thinking by the entire Service corps of operating technicians and staff specialists. Administrator's Memorandum SCS–40 says it like this: "Each state conservationist is responsible for developing an annual list of conservation research needs for his State . . . SCS field staff and other interested individuals and groups will present research needs to the state conservationist prior to . . . [May 1.]" Like making a budget, this calls for the solid thinking that strengthens administration.

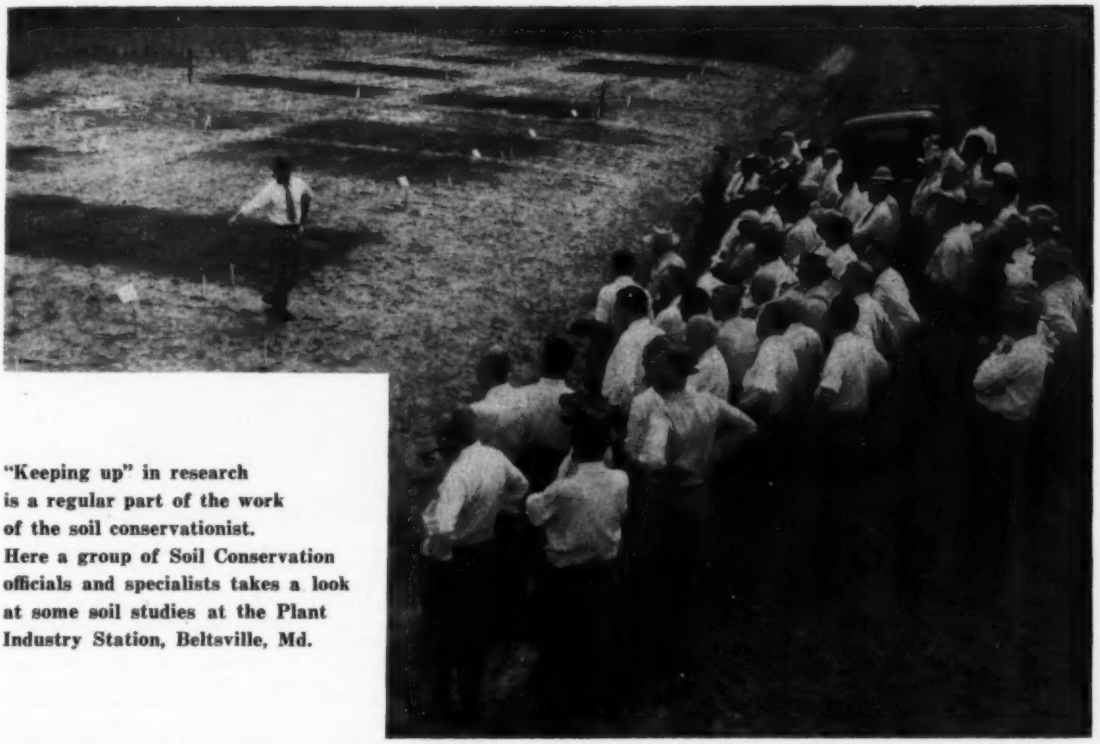
Second, the document on its way to completion will have required the advice of many private citizens, including many supervisors of soil conservation districts. It will have prompted the national and state associations of districts to begin the establishment of their own system of research committees.

State conservationists are instructed to "seek the advice of soil conservation districts, State conservation committees (commissions and boards) and others in developing the list of problems proposed for research solution." The National Association of Soil Conservation Districts at its meeting in New Orleans last February officially reconfirmed the report of its 1953 research committee recommending the establishment of district, state, area, and national research committees.

The National Association report said in part: "Districts should make definite plans for calling to the attention of their state associations the problems which are not being met and which may require new research. Each state association should have a research committee whose job it is to keep in touch with the research agencies and the state conservationist regarding both current and needed research. Means should also be provided for carrying unmet needs from the state level on to the area and national research committees and to the officers of the national association for further attention and action."

The third good purpose served by the report before it is finished is this: It provides an additional specific means of bringing together in the State representatives of State and Federal agencies concerned with soil and water conservation. The Administrator's Memorandum makes it clear that SCS will actively seek team play: "As a first step in determining the functional procedures to be used in each State in developing the annual list, the state conservationist will discuss with the state experiment station director and the state extension service director the desirability of creating a formal or informal committee for the systematic consideration of proposals and for the determination of major research needs in soil, water and plant conservation, in the State. SCS procedures in listing needs should be coordinated with the arrangements jointly agreed to by the state conservationist and the directors of the station and the extension service."

Prior to the reorganization of the Department, plans called for special research needs committees organized under terms of a proposed memorandum of understanding among SCS, ARS, and the individual state experiment stations and extension services. Now, however, a uniform system of committees is not considered to be necessary. As Administrators Williams and Shaw said in their joint letter to directors of state experiment stations and extension services, "We of ARS and SCS believe (and we feel sure the state institutions agree) that the objectives of the proposed agreement are still important and that we should strive to



"Keeping up" in research is a regular part of the work of the soil conservationist. Here a group of Soil Conservation officials and specialists takes a look at some soil studies at the Plant Industry Station, Beltsville, Md.

achieve them. We favor the use of State research needs committees as previously contemplated and will be glad to develop formal or informal arrangements to that end in any State. We do not consider a uniform system of committees to be necessary.

"SCS is making its state conservationists responsible, as far as that agency is concerned, for the necessary consultations with state experiment station and extension service directors and with federal research workers in the State regarding research needs. This may be done through an organized inter-agency committee in states where it is the consensus of agencies that a committee is desirable. In other states the committee may function on an informal basis."

The Experiment Station Committee on Organization and Policy took the following action at its meeting the latter part of April:

"ESCOP recommends to the state experiment station directors that a committee be formed in each State, composed of representatives of the experiment station, the extension service, and Soil Conservation Service, to systematically consider and list the research needs in soil and water conservation in that State."

The Extension Committee on Organization and Policy approved a similar resolution at its April meeting.

It can be seen that much thought and planning have gone into the arrangements for reporting officially the conservation problems of the country, state by state.

Fourth and not least among the good purposes served is the fact that the state agricultural experiment stations will have had the benefit of the state reports from which the national report is compiled. In fact, the national list will indicate what the state stations are doing and hope to do toward meeting each unsolved problem.

"When the state list of research needs is agreed to by the committees," again quoting the Administrator's Memorandum, "the state conservationist will consult the state experiment station director in regard to the extent to which research needs can be met with State resources."

State reports of conservation research needs, wherever possible, are developed by committees made up as desired by the interested State and Federal agencies in the State. Here is the Utah research needs committee at work on July 20. Left to right, the members are A. J. Webber, soil conservationist, SCS, Salt Lake City; D. A. Burgoyne, assistant director, Utah Agricultural Experiment Station; Alvin Carpenter, assistant director, Utah State Agricultural Extension Service; Howard Peterson, professor of agronomy, Utah State Agricultural College; Louis Jensen, extension agronomist, U.S.A.C.; Bliss Crandall, assistant director of the experiment station; C. H. Milligan, head, department of irrigation and drainage, school of engineering, U.S.A.C.; Cyril Lauritzen, soil and water conservation research branch, Agricultural Research Service, Logan; George A. Lawrence, civil engineer, SCS, Salt Lake City; Josiah Libby, SCS state conservationist, Salt Lake City; Sheldon Winn, SCS range conservationist, Logan; John W. Metcalf, SCS soil scientist, Salt Lake City. Others taking part in meeting but not shown in picture include Wayne C. Cook, range management division, U.S.A.C.; and Bill Bennett, agronomist at the Utah experiment station.

The general understanding is, of course, that the Federal research planning will begin at the point where State efforts leave off.

By August 1 the state conservationist sends a copy of the state report to the SCS Administrator. (State research needs committees will be free to make additional uses of the report if they wish.)

From the state reports, the national report will be compiled by an SCS National Research Needs Committee appointed by the Administrator.

That brings us to the final report itself. Let's take a closer look at it to see what it is—and what it is not.

Is it only what its name implies—a prosaic list of problems? It would be important enough if it turned out to be that only.

But it is far more.

During its preparatory stages, as we have seen, it serves as an instrument of cooperation.

In finished form, it will be a mirror of the future.

Look into it and you may see the makings of your work plans in the years to come. You will see the subjects of handbooks, guide sheets and job sheets on which you may be working 2, 3, 5 or 10 years from now. You will see the topics of future bulletins, reports, talks, and other communications designed to fill the gaps in people's knowledge of conservation principles and techniques.

You will not see in the mirror the total program of SCS. The report will not mention the problems that are being met effectively every day on the basis of present know-how. It will touch lightly, if at all, upon the questions into which researchers are already delving. And, to most of us the "research needs" that don't get into the final report will have more immediate significance than do those which survive the the screening.

What is a "research need?"

It is merely a need for facts we don't have.

Fortunately, not every suggested "research need" actually calls for research. Sometimes

the needed facts are available. The problem is to dig them out of their hiding places in publications, desk drawers, and people's heads and to get them to the people who have said they need such facts.

It is at least as important to find out that a field technician is in need of information which is already available as it is to learn that he needs facts which can come only from a brand-new research project.

Field staff workers of SCS are already busy responding to the fact-needs expressed in preliminary lists and discussions of research needs.

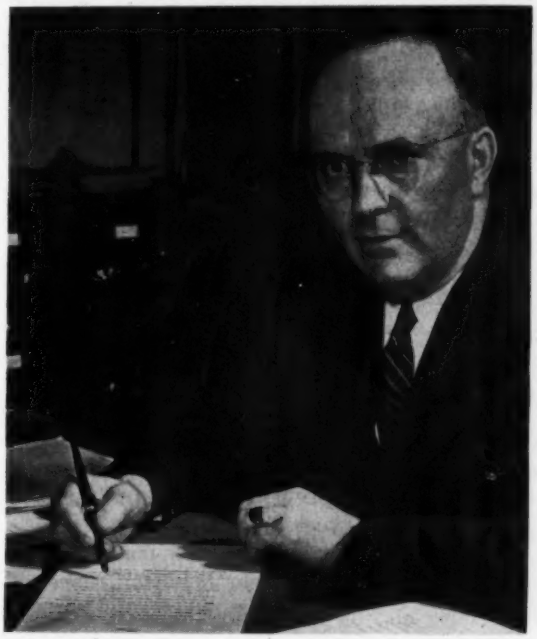
No one can yet foretell the full effect of this new guide for staff and administrative activity. *Certain it is, however, that the pinpointing of field problems will help immensely in the planning of training programs, technology workshops, guide sheets, publications, and all categories of field work.*

Thus, the reporting procedure provides a guide for the present as well as for the future. It is a guide for the placing of emphasis, the eternal balancing trick in any agency dealing with a complex of problems.

The ARS branches concerned with soil and water conservation need this kind of a guide as much as do operations personnel. They not only must plan research but must plan and prepare reports, technical papers, publications and other materials with which to meet the needs of program workers and farmers. When they know specifically what facts are needed, they can weave together the new results of research and the previously known facts so as to make their reports increasingly useful.

Dr. Robert M. Salter, who lately headed the SCS and now is chief of the Soil and Water Conservation Research Branch of ARS, stressed the need for precision in planning research and reports when he spoke at the Red Plains Conservation Experiment Station field day near Guthrie, Okla. He said, "The Agricultural Research Service recognizes a great responsibility to the people of this country for research into problems of soil and water conservation. We are attempting, in cooperation with the state experiment stations, to tailor research projects to the exact needs of the soil conservation program. We want to make our research results available quickly whenever we have something worthwhile to report so that extension education, the technical assistance of SCS, and the financial assistance of the agricultural conservation program can represent at all times the latest and best knowledge that science can provide."

The fact-needs to which attention is called through the new reporting process can be likened to the red-marked route on a road map. We follow the route, but we need the rest of the map for reference. ARS must not only provide information that follows the marked route but must also provide many related points of reference through reports and publications.



Dr. Robert M. Salter, Chief of the soil and water research branch, Agricultural Research Service.

General publications are being exchanged by the two organizations. Policy with respect to division of responsibility on publications has been jointly developed and agreed to. ARS will continue the former SCS practice of compiling and distributing abstracts of published material on soil and water conservation.

The Soil and Water Conservation Research Branch will issue quarterly reports designed especially to keep SCS personnel abreast of developments at all project locations.

Project annual reports and other administrative materials are made available to the jointly employed research liaison representatives and, through them as needs indicate, to other staff members of SCS. In fact, the liaison representatives are given free access to the reports and personnel of ARS and are afforded a special fact-finding service. They may select the person from whom they want to ask information, or they may ask me to find the right person and get the information for them. Although administratively responsible to the SCS assistant administrator for field services, they are included in ARS staff conferences wherever possible and are invited to sit with official technical committees. Close as the relationship is, however, the liaison representatives are not to be exclusive channels between the agencies. One of their constant duties is to facilitate close working relationships among all SCS and ARS personnel.

Important among the ways in which field technicians may obtain the facts of science are technical workshop conferences and field tests and trials. Administrators Williams and Shaw in their letter to State college officials mentioned the workshops as "valuable aids to cooperation," adding that "we favor these and all other means of arriving at common understandings on technical problems and of maintaining good day-to-day working relationships."

Field tests and trials are to be conducted cooperatively with the research liaison representative working with state conservationists, other SCS personnel, research workers, and soil conservation districts in planning and conducting them.

Trouble-spot consultation is a form of cooperation that thrives as people get acquainted, and a healthy trend is showing up. A land use problem in Missouri, soil salinity in Texas and Oklahoma, poorly drained spots in Maryland, soil compaction in New Jersey—those are a few of the subjects and places that have drawn research and program men together recently for field inspections and discussions. Within the obvious limits, we can look for much more of the same.

Best of all, perhaps, a great many strangers are turning out to have first names.

And isn't it funny how often people with first names turn out to be able and friendly and actually interested in the same problem we ourselves are wrapped up in?

"We of ARS and SCS feel that we must work together as members of the same administrative unit (which, indeed, we are, considering the Federal-States Relations group as a unit)," say Administrators Shaw and Williams, "and we desire to cooperate just as closely with the state experiment stations, state extension services, and other agencies responsible in any degree for conservation research and education."

The research needs report and the work back of it are means to that end.

These Things We Have Learned

The author here reviews some of the basic knowledge obtained from experimentation with soil and water.

By JOHN LAMB, JR.

LIMITED measurements of soil losses by erosion were started in Missouri in 1917, North Carolina 1924, and Texas 1926. In 1929 the United States Department of Agriculture started eight experiment stations through the middle west, Ohio, and southeast. These were for the

Note.—The author is research liaison representative for the Northeast, Soil Conservation Service, College of Agriculture, New Brunswick, N. J.

express purpose of measuring soil and water losses. Thus, was laid the foundation for the Soil Conservation Service. Within 5 years the first major erosion stations were established in the Northeast, in the States of New York, Pennsylvania, New Jersey, West Virginia and Virginia.

At these stations the major factors in soil erosion were studied: soil cover, degree and length of slope, the natural erodibility of the soil, and runoff in relation to rainfall intensity. Thousands of measurements were made, and the relation of each factor to soil loss was well enough established to justify combining into a soil loss formula. With this, under many conditions of plant cover, slope, soil, and rain intensity, it was possible to make a reasonably accurate estimate or prediction of soil erosion loss. The principles so developed made it possible to plan methods of control that were effective and profitable.

Soil Cover

Plant cover and any litter on the surface of the soil protects it from the beating action of raindrops. Even stones were found to help hold soil in place. Raindrops, and especially the large drops of a thunderstorm, fall with a lot of force. Two inches of water over an acre weighs 226 tons. When the drops fall at the rate of 20 miles per hour, which is not unusual, 2 inches exerts enough energy, when it hits the soil, to lift the plow layer 3 feet high. The plow layer weighs some 1,000 tons per acre. Fortunately, that much water never hits the ground at one time, but it is not especially unusual for 2 inches to fall in a period of 30 minutes.

Any leaves or materials that absorb the energy of the rain before it hits the soil are very effective in reducing soil loss. The roots of crops hold soil against the tearing, abrasive action of running water. In New York on the Bath flaggy silt loam soil, not too much unlike some of the potato soils of Maine, clean, cultivated, fallow land lost 10 tons of soil. At the same time, corn, continuous with no fertilizer, lost 3 tons. Corn well fertilized and grown in a rotation of corn, oats, and clover lost only one-tenth of a ton of soil. The corn was planted on the contour. A meadow mixture of grass and clover lost almost no soil—a mere trace.

The tops and roots of thrifty crops offer a great deal of protection. The larger yields leave more top and root-growth residues to keep up the supply of active soil organic matter. On the Bath soil mentioned above, removing the stones above 2 inches in diameter increased the water runoff from 13 to 20 percent of the rainfall, and the soil loss from 4.3 to 12.7 tons per acre annually.

In an experiment in Illinois after the corn ears were harvested, the stalks and leaves were broken down and left on the surface. They were removed from a plot nearby. Then a rain occurred in which 1.75 inches of water fell in 1 hour. Where the cornstalks were on the surface only 14 percent of the water ran off, and the soil loss was one-tenth of a ton. Where they were removed, water runoff was increased over 5 times, and the soil loss was increased 16 times.

More Slopes, More Erosion

The water runoff and soil loss was measured from a rather friable, well-drained soil in New York where the slope was 9 feet per 100 feet length, and also where the slope was just twice as steep. On the latter both the runoff and the soil loss were doubled. On the same steepness of slope, where the length was doubled from 75 feet to 150 feet, the soil loss was increased, but not doubled. In thousands of measurements over the central and eastern part of the United States there was much the same result. In general, the steepness of the slope was more important than the length. If the degree and length of slope were known, along with the erodibility of the soil and the intensity of the rainfall, the soil loss for a certain crop could be calculated.

Most of these measurements were made on relatively short slopes of 300 feet or less. The erosion was sheet erosion, in which the water runs over the ground surface in thin sheets before it gathers into flows that gouge out gullies.

Intensity of Rainfall

This brings us to the next factor in erosion, and a very important one—intensity of rainfall. At one location in New York in 8 years there were 177 rains that caused erosion from a bare soil. On a soil much the same as the potato soils of Maine, these rains lined up in a definite order. The faster the rain fell, what we call the higher the intensity, the more the

soil loss. The soil loss would start in approximately 15 minutes in a rain falling at the rate of an inch per hour. Of course, if the rain fell faster the erosion would start sooner. One time 1½ inches of water came in about 30 minutes, 1 inch of which fell in 10 minutes. During that 10 minutes fine topsoil washed off to the extent of 8½ tons per acre. A study of the rainstorm records in New York revealed that these high intensity thunderstorm rains occurred chiefly in the summer. In the interior of the state 80 percent occurred from May 15 to September 15. Near the seacoast the same trend was evident, but not so clean cut.

Again, it was found that this change in erosion with a change in rain intensity could be calculated with a fair degree of accuracy.

Natural Erodibility of Soil

In addition to the behaviorism already mentioned, soils vary in their inherent ability to resist the action of raindrop impact and moving water. For example, taking an average of 7 years, the Dunkirk silty clay loam lost approximately 6 tons of soil per acre the first 10 days in August. One mile away, an Ontario silt loam lost 4 tons per acre in the same period. Both soils were clean cultivated fallow and had the same length of slope. The Dunkirk was a 5 percent slope, the Ontario an 8 percent slope. The same soil may vary in its erodibility due to past soil management and the condition of soil structure or tilth.

With the many measurements of soil erosion made from many different soils over the humid parts of the United States, it is possible to list most soils in the order of their erodibility. Here, as in all the factors listed, continual research is needed to build a better and better program for control of soil erosion. At this stage of development, however, there was a sound factual foundation for estimating total soil loss. At the same time, there was accumulating a valuable store of information on the quality of the soil lost.

Quality of Eroded Soil

Sheet erosion is a highly selective process. The soil organic matter is concentrated in the surface layer. The raindrops churn the soil into a dispersed suspension, and the lightweight organic matter and fine soil particles are carried down the slope by rain splash and thin sheets of water. It was found in New York that 95 percent of the topsoil washed from a 75-foot slope would pass through a 25-mesh sieve. Only 29 percent of the plow layer on the same slope would pass through the same sieve. This was a stony silt loam soil. Biological analysis by Wilson and Schubert showed the eroded soil contained 100 times as many of the aerobic soil organisms as the surface soil in place. Neal worked with a sandy loam on the coastal plain. The eroded material contained 4.7 times as much organic matter, 5.0 times as much nitrogen, 3.1 times as much P_2O_5, and 1.4 times as much K_2O as the original surface soil. The potash was 3.7 times more available.

Differences noted above depend on the soil. Where the soil is all fine, such as the one silt loam of lacustrine origin in New York (with the exception of organic matter) Slater and Carleton found there was little to differentiate the wash and soil.

The selective loss of fine soils, high in plant nutrients and waterholding capacity, has been summarized by Uhland. He found that crop yields decline even with the loss of the first inch of topsoil. The decline continues steadily as the depth of erosion increases.

Erosion Means Lower Yields

A good soil is one that has organic matter and small soil particles to facilitate the chemical and biological changes that go with high production. Sheet erosion steals both organic matter and fine soil particles. Grass and legume mixtures practically stop erosion and build up organic matter. In New York plots of stony hill soil were allowed to erode while on others erosion was held in check. A thousand pounds per acre of 10–10–10 fertilizer and enough limestone to grow clover was applied. Corn was then planted. A plot held fallow for 11 years, that had lost 135 tons of soil per acre, made only 19 bushels to the acre. An adjoining plot, in grass the same period with only one-tenth of a ton soil loss—and that the year of seeding, made 88 bushels. At Geneva, N. Y., on a limestone soil, the difference between the eroded fallow plot and the non-eroded grass plot was 40 to 106 bushels per acre. Another productive limestone soil in recently eroded land, after 2 years of soil-building with grass, made 49

bushels of corn, and 69 bushels on a less eroded plot. In all cases, eroded soils were lower in organic matter with fewer water-stable soil aggregates, and were more easily compacted.

With constant work and production strain, without time for rest and build-up under sod, the soil gets tired. Just as people, some soils get tired before others. Signs of a tired soil are crusting, clods, increasingly dry spots, increasingly wet spots, sheet erosion and compaction. More fertilizer is required and symptoms of minor element shortages are more acute. Such a soil is not an efficient place to use labor, seed, fertilizer and other things that make up cost in raising crops.

Drought and Conservation of Water

The use of water by crops, transpiration from the leaves, evaporation from plant and soil surfaces, depends primarily on temperature. The highest temperature, and thus the greatest use of water, often comes at the same time as the high intensity rains. There is always the threat of a loss of rainwater by runoff at a time when the growing plant needs all the water that falls. Experiments in New York showed that conservation measures that saved water gave an increase in yield 4 years out of 5. These were years with dry periods sometime during the growing season.

Farmers early recognized the danger to their crops by summer water shortages. Plants were spaced farther apart, and clean cultivated, to save water and nutrients for the plant to be harvested. This exposed the soil to rain impact, the hot sun, and led to rapid oxidation of organic matter and erosion. The very dangers they sought to avoid were increased by their precautions.

Methods of Erosion Control

The more that is known of the reasons erosion occurs, the more ways can be devised to prevent or decrease it. When the man drives up to your farm with the shield on the door that says, "Soil Conservation Service, U. S. Department of Agriculture," with his soil auger, or engineering instruments and maps, he is not alone. Back of him is the experience of years of application of research results to farm problems over the nation. When he advises that the potato rows be placed on the contour he knows that the ridge formed by cultivation will form a small dam that will in effect decrease the land slope and decrease the length of slope. In one test on a 300-foot slope, it reduced the soil loss from 14 tons to one-tenth of a ton per acre.

When he advises contour stripcropping he is making use of the information on the value of protective cover, as well as the effect of degree and length of slope and the power of a good crop rotation to build soil organic matter and improve soil structure. This usually means more rainwater soaked into the soil at a time the crop needs it. It usually means a soil condition that favors a deeper root system, and thus a larger reservoir of water to carry the crop over dry periods. When he advises diversion ditches he, in effect, is decreasing the length of slope to a point where there is little danger that volume and velocity of runoff water may develop to the point of expensive or perhaps permanent gully damage.

As research continues in soil and water conservation, it means more ways and better ways to fit a conservation plan to every acre of every field.

PROUD OF HONORARY MEMBERS.—For the past 3 years the directors of the Vermilion (Ill.) Soil Conservation District have solicited business establishments for a contribution of $25 which takes the form of an honorary membership in the district. This year 38 such memberships are in effect. They include implement dealers, grain companies, motor companies, hardware stores, fertilizer companies, livestock commission men, seed and feed stores, banks, canning companies, construction and drainage contractors, and one neighborhood group.

The district gives each member an attractive framed certificate.

In 1952 the names of the 18 members were put on the back of "Down the River" and distributed at the district's annual meeting.

In 1953 the 30 members were listed on a double page in the annual report, which was given wide distribution.

Each year each member has been given two tickets to the annual conservation banquet.

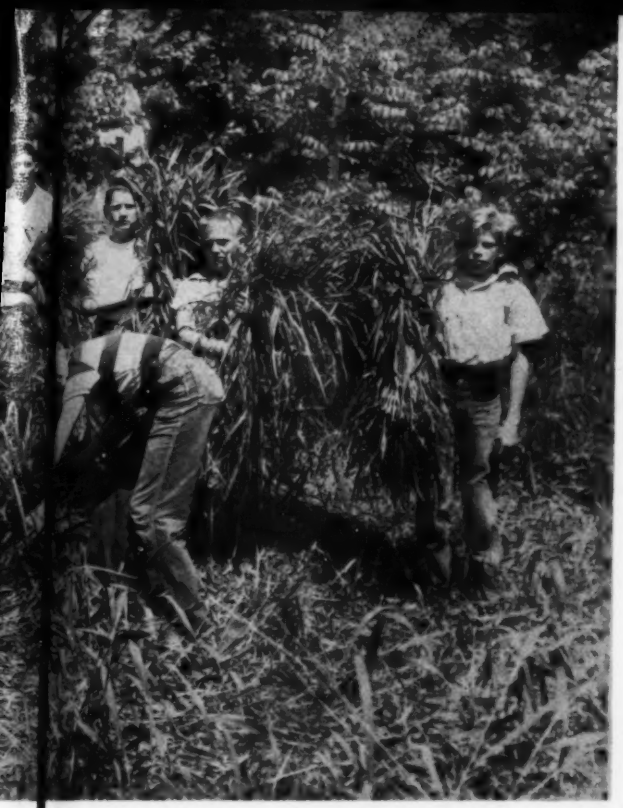
This year the names of the honorary members are listed on the district stationery and they have also been given the credit for furnishing 12 signs proclaiming soil conservation practices on the farms of cooperators. The Association of Illinois Soil Conservation Districts *News Caster* is sent to honorary members, and copies of this issue of SOIL CONSERVATION Magazine will be purchased for each member.

Gully-Mending Scouts

THIS year's Boy Scout National Conservation Good Turn instantly aroused the interest of the board of supervisors of the soil district of Worthy County, in the northwest corner of Missouri. Here was an opportunity, it was felt, for Scouts to learn some valuable lessons in soil and water conservation and at the same time illustrate, for farmers of the community, some simple practices which they could follow without detailed coaching.

At a board meeting early this year, the district's president, L. C. Lutes, read communications from the Missouri Soil Districts Commission explaining what was proposed. It was resolved to cooperate fully. Copies of the Boy Scout Merit Badge series booklet, "Soil and Water Conservation," were purchased and

Canarygrass stems being tramped into the mud at the edge of a pond on the Carl Hiatt farm, 5 miles southwest of Grant City. Scouts expect it to serve as a strainer to take out mud and silt particles which would otherwise wash down into the pond.



Boy Scouts gather canarygrass from lot of a Grant City resident for use in conservation project.

studied by the four farmer members of the soil district board. The booklets then were used by the Boy Scout leaders and the Boy Scouts themselves.

Roger Sherman, work unit conservationist, took the boys on tours of several farms where conservation practices were explained and studied. The aid of Editor Chase McLaughlin, of the *Grant City Times-Tribune*, was enlisted for photographs. Supervisor Carl Hiatt came up with an idea that would enable the Scouts to accomplish a "good turn." His idea was for the Scouts to illustrate a simple method of gully-healing.

The method consisted of cutting green reed canarygrass stems and tramping them into the mud and slush in the bottoms of gullies. If the gully bottom stayed wet for 3 to 4 weeks, Sherman explained, new plants would take root all along the green canarygrass stems and grow

Boy Scouts move to stop a small gully through use of canarygrass.

Tramping green canarygrass stems into bottom of large gully: Jim Motsinger, Jay Dalbey, Donald Friday, Harley Weigart, Tim Willhite, and Leland Foland. Trees lining gully banks were cut so that the grass could have full sun.

into a gully-choking mass of sod capable of healing over some of the worst gullies.

Here, then, in action went the Boy Scouts, the local soil district board of supervisors, the Rotary Club, the district cooperators, the newspaper and the Soil Conservation Service, to accomplish a "good turn" that would set an example for dads and other interested conservationists, as well as Scouts.

The Watershed Approach On The Little Sioux

Ripened experience and the cooperation of all agencies involved set a pattern which could be duplicated in many parts of the country where conditions are similar.

By
CHARLES
BALLANTYNE

THE Little Sioux River traces a crooked path from its headwaters in southwestern Minnesota, through the "Great Lakes" of Iowa (Spirit and Okoboji) southwestward for 135 miles to its confluence with the Missouri. This is the land of the Sioux Indian, famous for Indian wars and massacres, for deep, fertile soils of windblown origin, and for production of grain and livestock products totaling 156 million dollars annually. The 4,500 square miles of this river basin produce 200,000 head of beef cattle and half a million head of hogs annually, most of which find their way to one of the world's greatest livestock markets at Sioux City.

Fame is a two-edged sword, for while this area has developed great agricultural wealth, its soils have deteriorated rapidly from sheet and gully erosion, and the Little Sioux has been forced to carry imponderable loads of silt and dump them regularly into a large and complex system of drainage channels and levees which were man-made some 45 to 50 years ago. This complex drainage system was built to protect 200,000 acres of fertile land in the lower portion of the Little Sioux basin and in the flood plain of the Missouri.

Gullies form rapidly in eroding windblown soils. They often attain depths of 60 to 70 feet and widths of 200 feet or more. Sidehill gullies become numerous, resulting in much land destruction. Giving added momentum to the problem is the fact that slopes are steep and many slopes running 15 to 25 percent (15 to 25 feet of fall per 100 feet of horizontal distance) are farmed.

This 35-foot gully head worked its way through a public road and an additional 400 feet upstream in the past 5 years.

The upland soils in the lower valley of the Little Sioux lie like a shingle with the butt against the flood plain of the Missouri River. At this point they are deep, ranging from 100 to 200 feet in depth, with coarse silty material dropped by the winds of ages past. To the east and southeast, they gradually become shallower, tapering out to a few inches in depth many miles away. Here they consist of finer particles and more clay.

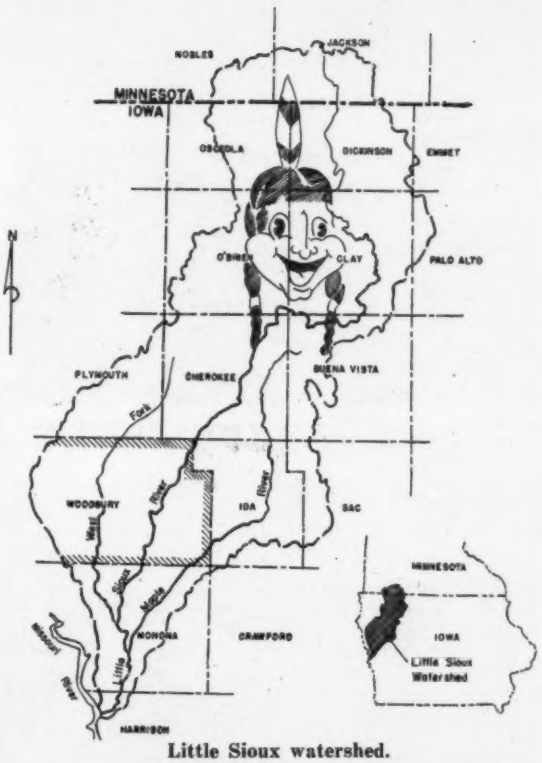
Note.—The author is work unit conservationist, Soil Conservation Service, Sioux City, Iowa.

Soil conservation districts had their beginnings in western Iowa in the early nineteen forties after 9 years of demonstration work (much of it on a watershed basis) in erosion control dating back to 1933. The first task for the new districts was to acquaint the farmers with the problem and to help them take the first simple steps on the road back. The Extension Service and other agencies, both local and national, helped to get the problem before the farmers and urban people alike. Slowly, contouring of row crops began to take root and spread; grassed waterways began to appear where small field gullies once were a problem; a few miles of terraces were built each year on the less severe slopes and the use of legumes and grasses in crop rotations became gradually more evident. By the middle forties, progress looked good by any previous standards, but it wasn't nearly good enough. Soil and water were still running wild.

In 1946, the Soil Conservation Service set about to carry out an authorization from Congress to retard flood runoff and reduce sediment damages on watersheds and the Little Sioux flood prevention program came into being. being.

The program first had to be integrated into the regular soil conservation districts program. Each soil conservation district governing body thus became a local sponsoring group, controlling local district policy as it affected flood prevention activities in its district. To coordinate the thinking of the many district governing bodies involved, the Little Sioux Works Committee was set up, comprised of 1 member from each of the 12 district governing bodies involved in the Little Sioux basin. This committee has guided the progress of the program through the 8 years of its existence.

From the beginning small watersheds have been the focal point of this integrated effort. There has been good cooperation among these watershed groups in carrying out the simple conservation practices such as contouring, better rotations, grassed waterways, etc., but the cost of controlling the silt and water losses from these watersheds by means of detention reservoirs and stabilizing structures, along with these simple conservation measures, has been very high. Costs of contract work were high



Little Sioux watershed.

and rising through this period. Of course, much of the benefit was downstream but off-site benefits are difficult for people to understand. Consequently, many questions were asked. Local people criticized the cost. Congressmen questioned the cost and the degree of participation by landowners on whose farms the work was being done. District commissioners and others who were guiding the policy were seeking not only lower costs but more effective methods of doing the job.

Level terraces have long been known to work well in the deep windblown soils of western Iowa. These soils have a high infiltration rate. Besides that, they are low in clay content and high in silt, tending to make them droughty. They need all the water that falls each year to produce high yields of crops.

Guy Wooster, farmer and district governing body member near Mapleton was heard to say: "Terrace these farms and you should not only be able to reduce the number of structures needed but the size of those that are left." Many people began to wonder if Wooster didn't have

Bulldozer reshapes a terrace to provide additional capacity, Woodbury Soil Conservation District.

units in 12 small watersheds. There were only minor amounts of terracing in these treated watersheds. At that time, the Works Committee, governing bodies of the various districts and the Soil Conservation Service, jointly made a review of accomplishments under the flood prevention authority to date and concluded that means should be explored and tried to improve the overall aspects of the program, as well as to keep the costs down. This was a large order. To everyone working with the problem, it meant an extensive terracing program.

At the meeting of the Little Sioux Works Committee on September 30, 1952 each district governing body was urged to contact local PMA Committees to determine their willingness to

Agency representatives take stock of progress in application of level terraces with special ACP assistance. This is in the Clift watershed, Woodbury County Soil Conservation District.

something. Ralph Wilcox, farmer near Correctionville and secretary of the Little Sioux Works Committee, said: "There may be some small watersheds that can be adequately controlled with terraces and good land use programs alone." Glen S. Law, farmer near Pierson and manager of the Woodbury County Agriculture Stabilization Conservation Committee office said: "My farm has slopes of only 3 to 5 percent and it has been completely terraced for 15 years. Honestly, I don't believe there is ever a drop of water that leaves that farm any more."

By the summer of 1952 the Little Sioux Flood Prevention program had treated about 200 farm

set aside extra funds for terracing and waterway development in small watersheds that were developing their land treatment and conservation programs prior to assistance from the flood prevention program. Several PMA Committees pledged some additional help for the program year 1953, but the only county which took full advantage of this trial run was Woodbury. Two small watersheds took advantage of the offer, set up their farm needs for terraces and waterways in advance, with the help of the district governing body, SCS technicians and the PMA Committee, and carried it out to completion during 1953. Thirty miles of terraces and 14,000 cubic yards of waterway filling were ac-

Severe gully erosion. Average annual maintenance cost of bridge on public road was $1,100.

complished in these two small concentrated areas. An additional 120 miles of terraces were built in the Woodbury district during the year 1953 and, when the ground froze up in early December, interest was still rising. Many small watershed groups of people were asking for help to get organized so they could petition PMA for similar special help with their terracing and waterway program during the 1954 program year. Before the year ended, nine small watersheds organized and petitioned the Committee (now designated ASC) for special help, and pledged to build 300 miles of terraces and do waterway work to the extent of 158,000 cubic yards of earth.

Are they carrying out these intentions? The best answer to that is the fact that during April and May this year more than 200 miles of terraces have been built in the Woodbury district and most of them are in these nine small watersheds. Altogether, 500 miles are requested by farmers for 1954 in this one district alone. This work is being done almost entirely with bulldozers owned by private contractors. Watershed groups and individual farmers make their own contract arrangements. Since many of these terraces go on steep slopes and because many small sidehill gullies are crossed at times, bulldozers are the most efficient machines available. Why do we terrace steep slopes? Because they are being farmed. During April this year 24 bulldozers and 4 machines of other types were building terraces in the Woodbury district.

This looks to everyone like the real thing. First, it is the watershed approach, which has never been questioned as a sound method of handling the soil and water conservation problem. Next, it allows the watershed group to

Water detained by level terraces and a detention reservoir, following a 3-inch rain. This is in the Anthon watershed, Woodbury County.

organize with a three-man committee of its own to handle its group affairs, call meetings, handle petitions, contract negotiations and many other things. It concentrates the work of SCS technicians, saving time in travel compared with the "shotgun" method, and resulting in more time spent in actually getting conservation on the land. Conservation practices are bunched and concentrated in an impressive way and every farmer is doing many of the same things as his neighbors. He is not an "island unto himself." The watershed approach in the Little Sioux places each watershed in competition with many others for the high priority position in getting added help from the flood prevention program with major gully and flooding problems. Each watershed group knows at the outset that it must do its job of sound soil and water conservation first before it can be considered for flood prevention assistance. The Little Sioux Works Committee spelled out the responsibility for all when it resolved that "flood prevention funds be used to aid watershed groups with those practices desirable in flood control which are beyond those normally found in a sound farm conservation plan."

The costs of applying flood prevention measures to small watersheds which have extensive level-terrace systems are much lower and may go lower still, as more experience is gained with this approach to the problem. These cost reductions in many cases run 50 to 65 percent below those found under earlier design criteria. There is a good probability that some small watersheds may be found that can be completely treated without the high-cost conventional concrete structures. This reflects the practical application of the statement made by Ralph Wilcox and quoted earlier.

On-the-farm benefits from this approach are far above those realized under former methods. Soil and water losses are negligible from these

(Continued on page 68)

Ten Years Of Service Marked

Gov. Donnelly proclaims "district month" in Missouri. Farmers, townsmen and newspapers join in observance.

Supervisors of winning district in Area 5, Southeast Missouri: A. H. Webb, Steele; J. L. Burlison, Wardell; J. Wesley Shrader, Hayti; Henry A. Boone, Caruthersville; and W. J. James, county agent and secretary to the board.

By HOWARD C. JACKSON

IN JUNE, for the first time, Missouri observed "Soil Conservation District Month," by proclamation of Gov. Phil M. Donnelly. Placards announcing that "We join with Gov. Donnelly in congratulating Missouri's Soil Conservation Districts on 10 years of progress" were widely displayed in stores.

"Modern conservation," the Governor pointed out, "has come to mean more than keeping soil and water where it belongs. Conservation farming now means higher productivity and better standards of farm living." This theme was stressed during the month's observance.

Joining soil districts in observing the month was the St. Louis *Globe-Democrat*, long a conservation leader and notably successful in conducting the Soil Conservation Districts Awards Program in Missouri and Illinois.

The *Globe-Democrat* program is unique on several scores: It is the only newspaper program that covers all of two states; it stresses community and district effort rather than individual achievement; and it is most impressive in the incentives offered.

The sweepstakes prize in each state is an all-expense trip to the National Association of Soil Conservation Districts convention for eight persons from the winning district. Last February eight persons from each state were guests of the newspaper at the NASCD convention in New Orleans. The winning groups were brought to St. Louis, where they were guests of honor at a dinner. They were taken on a sightseeing tour to Mobile, Ala., and along the Gulf coast to New Orleans. This year the winning districts were in Harrison County, Mo., and Effingham County, Ill. Next spring the *Globe-Democrat* will take the state winners to the 1955 convention in San Diego, Calif.

In addition to the sweepstakes prize, recognition is given to five area winners in each state. Last spring approximately 4,000 persons in the two states attended the area recognition parties, heard addresses on conservation by nationally known speakers, saw the directing boards of the winning districts receive bronze plaques, and enjoyed a program of entertainment. Donald A. Williams, Administrator of the Soil Conservation Service, addressed recognition parties at Olney, Ill., and Hayti, Mo.

Conservation received wide publicity before and after the parties. As the chairman of the

Note.—The author is deputy state conservationist, Soil Conservation Service, Columbia, Mo.

Charles C. Clayton, executive assistant to the publisher, St. Louis *Globe-Democrat*, presents citation of merit award to work unit staff attached to Pemiscot Soil Conservation District. Left to right: D. A. Williams, Administrator of Soil Conservation Service; Clayton, Harry Barker, work unit conservationist; Robert Axon, agricultural engineer; and Albert Howard, engineering aid.

Pemiscot County district board put it: "We are grateful for the award we received, but more particularly for the impressive boost given our district program."

The *Globe-Democrat* augments and supports its recognition of the importance of conservation and the soil district movement with news stories, pictures and editorials throughout the year, reminding urban readers as well as farmers of their stake in preserving and improving the fertility of the land.

In both states the program is carried out in cooperation with the Soil Conservation Service and the state associations of soil conservation districts. Representatives of the Service and of the state associations serve on the advisory committee, which is headed by Charles C. Clayton, executive assistant of the *Globe-Democrat*.

As Clayton puts it, "We at the *Globe-Democrat* believe that soil conservation is a year-round job. We believe that the soil district, working with the SCS, offers the democratic and the most effective way to get the job done. We seek to encourage support of the soil district program, both by farmers and by businessmen and industrialists."

Now in its third year, the *Globe-Democrat* program is firmly established as a permanent part of that newspaper's public service.

THE LITTLE SIOUX

(Continued from page 66)

terraced areas. The water goes into the ground for increased crop production and sidehill gullies disappear.

There is an urgency in the air these days in the Woodbury Soil Conservation District. Watershed groups are moving fast to make up for lost time and wasted opportunities. Thanks to a farsighted and extremely cooperative ASC Committee, which has the courage to set aside half or more of its funds to further the watershed movement, and to the excellent cooperation of schools, news outlets, local and governmental agencies and many others, we believe the pattern is set and that in 21 years the watershed approach to conservation in the Little Sioux area has really come of age.

RESEARCH ON RESOURCES

(Continued from page 50)

thrive. Demands upon our soil and water resources are rising every year, as also are demands on the nonrenewable mineral resources—fuels, metals, and the rest—of our country and of other lands.

"The way in which these issues are met will be of deep concern to everyone in the country."

How To Get The Story Told

A speaking contest can bring sound results when carefully conceived and conducted.

By ROY PRING
President, Board of Supervisors
Fountain Valley Soil Conservation District

THE El Paso County (Colo.) Chapter of the Soil Conservation Society of America is an unusual group. These men—bankers, ranchers, lawyers, builders, grocers, salesmen, farmers, doctors, educators—have several things in common. They all live in or near Colorado Springs, Colo. They are all interested in conservation. At their monthly meetings they dearly love to "let their hair down," and especially to heckle their speakers. They have had the honor and privilege of badgering some of the finest speakers in the State, including Governor Dan Thornton. Although the speakers have all survived this ordeal and taken the comments in the spirit of fellowship with which they were given, it is with trepidation that anyone accepts the assignment of honored guest.

All this changed at the society meeting on May 19, 1954. Fay Holmes, a charming young high school senior, well knew the group's reputation. She came before that group of 80 men, smiled, and in a clear, soft voice told them of her stake—and theirs—in soil and water conservation. The proverbial pin was not dropped, but it could have been heard. When Fay finished, the men stood and applauded.

Many of the group, as individuals, had contributed financially toward the program that produced Fay as a conservation speaker. Before adjourning, the group unanimously voted to contribute an additional $150 from the local society's funds.

I tell you of this meeting because it epitomizes the results of the Fountain Valley Soil Conservation District's conservation contest. Let me briefly introduce the district board responsible for this contest:

Selby Young is a born conservationist who worked at it professionally as area conservationist in the Soil Conservation Service, and on his own farm and dairy. He is at present the president of the Colorado Association of Soil Conservation Districts.

John Janitell was also born to the soil. His own ranch south of Colorado Springs shows his devotion to conservation. Johnny also operates a highly successful business in the city.

Colonel H. E. Kloepfer is the only member of the board who is not a born agriculturist. However, the colonel (cavalry) certainly is adept at conservation. On retirement he purchased a rundown ranch that is now rejuvenated and reclaimed.

Clarence Foster operates a successful farm and ranch. He has long advocated conservation, and he practices what he preaches. He has held every office in the State soil conservation board, as well as those in his own district.

Ralph Swink is our county agent and ex-officio board member. He not only has an exceptional agricultural background, but he contributes immeasurably to all board meetings and endeavors.

This group has long been concerned with conservation education. For years it offered a scholarship to the Colorado State Agricultural College for any student in the area who would study conservation. It was indeed disheartening that no one had sufficient interest even to apply! Money was put aside for an educational fund to help with worthwhile projects. We were able to accomplish some good through Boy Scout and Girl Scout groups. We also had district signs made for all cooperators, and large signs for the district boundaries.

We still were not satisfied. The Board felt we needed a new program to accomplish the following aims:

1. Create an interest in conservation and to disseminate information on conservation to the general public.

2. Get conservation information into the schools.

3. Inform local business people of their dependence on conservation.

The Fountain Valley conservation contest was designed to answer these needs. We had big ideas and little money. Perhaps that was our most fortunate circumstance. Framed certificates were prepared that proclaimed the holder was a "Fountain Valley Conservation BOOSTER." Armed with these plaques, conviction, and a persistent disposition, the board members approached our local businessmen. The Chamber of Commerce agricultural committee contributed $200. Individual businessmen contributed $25 apiece. Banks, feed stores, lumberyards, hotels, contractors, and others also contributed. We obtained more than enough to finance the first year's contest—and have only started.

The contest was open to any high school senior who resided within the district or attended any of the eight high schools. In order to reach as many people by personal contact as possible we had a "speaking" contest. At the same time we wanted to facilitate the selection of the finalists, so we had them submit their material in written form. This gave us accurate data for newspaper publication.

The school libraries were all provided with "information kits" on soil and water conservation, obtained from the SCS office in Albuquerque, N. M.

Students were required to write a speech on the subject. "My Stake—and Yours—in Soil and Water Conservation." It was to be around 2,000 words, requiring approximately 15 minutes to deliver.

To stimulate interest we offered attractive awards. It was our hope that the winners would proceed with an education in conservation, and yet we did not want to eliminate many students with previous commitments or predetermined pursuits. Consequently, we provided a choice between scholarships to our state agricultural college or half their value in cash. First prize was a 4-year full-tuition scholarship, or $300 cash; second prize was a 2-year, full-tuition scholarship, or $150; third prize was a 2-year, half-tuition scholarship, or $75.

The district board acted as judges. Consideration was given to—

1. Attention stimulation
2. Knowledge of problems
3. Need for action
4. Relation of people to problems
5. Arrangement of ideas
6. Clarity of presentation

Fifty points were allowed, each judge giving each entry a grade up to that maximum. An average grade was then determined for each entry. On this basis the finalists were selected; however, due to a tie, it was necessary to end up with four winners instead of the contemplated three.

The four winners, notified of their selection April 7, were advised to arrange for as many speaking dates as possible for themselves. A maximum of 10 points was to be allowed for talks given prior to the final judging. The number of points each one would receive depended on the diversity of groups before whom they spoke, the number of people spoken to, and so on.

Final judging occurred May 12. This judging was limited to presentation—the effectiveness of the speaker. The judges, with 40 points maximum to award, were confronted with four exceptional individuals, and a point or so could easily change their relative standings. The board realized that this was a rough assignment and felt that qualified outside help was advisable. For this reason the following men were called in to serve as judges on this phase: Kenneth Chalmers, state conservationist; Charles Terrell, Colorado extension conservationist; Senator Vernon Cheever, State senator from the Colorado Springs area; and representatives of both local newspapers.

When the final judging was completed it was merely a matter of adding figures. There were a possible 100 points for each finalist—50 points for the essay, 40 points for the presentation, and 10 points for previous deliveries. The contest was close. Fay Holmes scored 95; Anita Sue McTeer 94, and Dick Foster and Bill Dooley 92 each.

That evening Fay Holmes was the speaker at our first Fountain Valley Contest Award Banquet.

Thus, our first contest officially ended. But its benefits will never end. Fay has continued to give her talk to groups that have requested to hear her. The interest that was stimulated

in the other contestants will never die. People who heard these youngsters are going to be more understanding toward conservation needs of the future. There were over 2,500 people in the audiences where these students personally appeared. Each winner gave his talk over the radio, and on our local television networks. The essays were printed in full in the local papers. Other papers picked them up.

The principal of one of our larger schools requested additional conservation kits and more information. He intends to start a course in conservation or incorporate it into the existing program this fall.

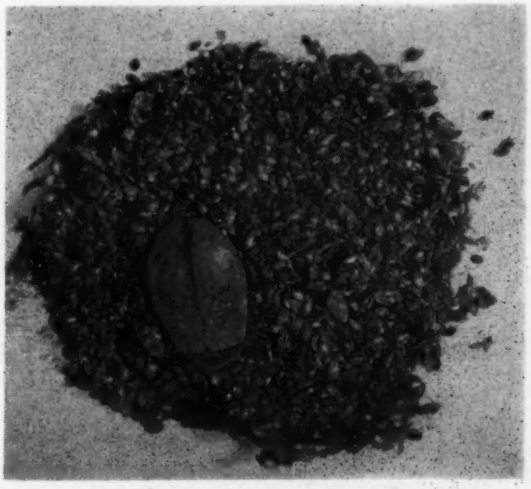
The district has received many commendations on this contest. The number of people reached cannot be estimated. The businessmen's response, however, has guaranteed the program's continuation. Although we did not expect to ask their aid every year, many have expressed their desire to contribute annually. How can we refuse?

HONORED FOR ARTICLES.—Adrian C. Fox in June was presented a special plaque, at the annual convention of the North Dakota Wildlife Federation, in recognition of his many years of contributions to the *North Dakota Outdoors*, a monthly periodical of the North Dakota Game and Fish Department.

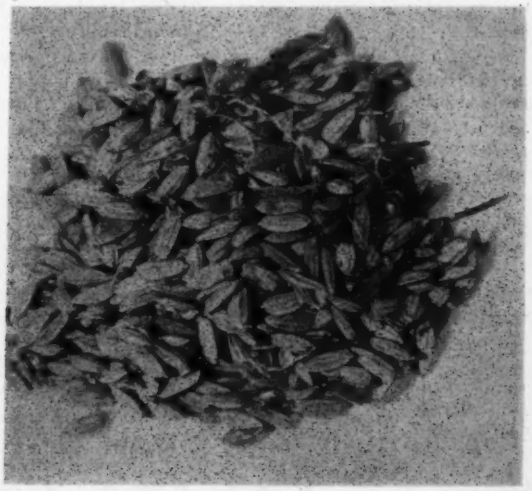
Over a period of 10 years, Fox contributed some 135 articles. He is widely known as a biologist and information specialist. A veteran employee of the Soil Conservation Service, he now is deputy state conservationist, Bismarck, N. Dak.

Left to right: Howard Stone, president emeritus of North Dakota Wildlife Federation and director National Wildlife Federation; Adrian C. Fox, A. R. Kernkamp, president of North Dakota Wildlife Federation. (Photo by Pershing Carlson.)

DUCKS COOPERATE.—The Louisiana Gulf Coast is the end of a flyway for millions of ducks. Rice farmers have learned to cooperate with these valuable game birds, to mutual benefit. When too little rain has fallen, many farmers, prior to arrival of the birds from the north, pump water from their irrigation wells and use it to flood rice stubble land.



Crop contents from two ducks showing obnoxious plant seeds. Picture below contains a high percentage of red rice, which lowers the grade on the market.



Fields which are infested with red rice and other obnoxious plants are selected for duck ponds. Ducks feed on the red rice and other seeds, and this activity sometimes results in an increase in yield of rice of a better grade. These flooded areas, for varying periods of time, are small refuges for literally thousands of ducks which glean from these fields enormous quantities of very desirable food.

Ducks feeding in flooded rice stubble on the farm of Lee and Raymond Bebee, Iowa, La.

Ducks formerly used the Louisiana Gulf Coast prairies as feeding and resting grounds, prior to the advent of rice growing. Increases in population, improved cultural practices, and the addition of cattle as an integral part of farm operations, altered conditions greatly.

Ducks have always been known to utilize the ricefields. But the idea of flooding rice stubble probably came from farmers who observed how ducks took to ricefields hit by storms that made harvesting impossible. The ravenous consumption of rice in storm-swept fields indicated a possible shortage of feed in the native marshes nearby. This led to establishment of rice-field duck ponds.

It would be conjectural, of course, to intimate that the creation of a ricefield duck pond by a farmer is altogether removed from the sport of duck shooting.

The amount of undesirable seeds consumed by the ducks is told by Tom Thomas, Gulf Coast Soil Conservation District supervisor, who remembers when commercial shooting was done in this area. The commercial shooters, according to Thomas, obtained from the crops of their daily take sufficient grain to feed their home flocks of poultry during the shooting season. We can be glad this type of industry is connected with an era that is in the past.

—J. P. Maxwell

ANIMAL VANDALISM.—Woodchucks' holes are many times the reason for washouts and extensive soil erosion starting in fields, according to the Connecticut Extension Service. An example of this was the C. W. Larson and Son Farm, Portland, during the past winter. The heavy rains started a washout in alfalfa fields which will require 10 dump truck loads of soil to fill in and level up so field equipment can be used in the lot.

A PLACE TO LEARN.—In April the Riverside, Calif., Chapter of the National Secretaries Association held its fifth annual "Secretary for a Day" program. On this day schoolgirls interested in business careers come into business offices and take over the duties of members of the association. This year, 45 girl secretarial students from the Riverside Polytechnic High School and Riverside College were chosen for such training, to learn firsthand what a position in the business world is like.

The Soil Conservation Service area office looked upon this as an opportunity to do some educational work in soil and water conservation through the experience which would be carried back to the school by its student representative. A high school girl, Miss Carol Smart, was assigned to the office and spent the day carrying out routine duties such as taking dictation, running the ditto machine and answering the telephone.

In a letter commenting on her experience, Miss Smart wrote: "I will remember that day as long as I live because I had such an enjoyable 8 hours. At the same time I learned a great deal about the duties of the soil conservationists and the actual office procedure."

LEAGUE'S CHOICE.—*Virginia Wildlife*, the official publication of the Virginia Commission of Game and Inland Fisheries and edited by J. J. Shomon, has been picked by the Izaak Walton League of America as the best state conservation magazine in the nation.

GRASSLAND INTEREST.—Over 200 Waukesha County, Wis., farmers plan to renovate pastures. Many have taken soil samples.

Public Library
Detroit, Mich.
General Information
SEP 29 1954